

***'The impact of Predation on Kererü on Banks Peninsula'***

Te Ari Prendergast joined Kaupapa Kererü in 2003 and is researching the impacts of predation on kererü on Horomaka / Banks Peninsula on behalf of Kaupapa Kererü. Te Ari is studying towards his Masters of Science at Lincoln University.

**Aim:** To develop methods and generate data that will help determine the impact of predation on kererü in the Whakaraupö / Lyttelton Harbour.

**Objective 1:** *To develop index method using artificial nest method as a means of monitoring predator impacts.*

- Developed artificial nests from wicker baskets intersected with twigs from kanuka. These nests are attached to tree branches 2 m high, with wire.
- Artificial nests were placed at two study sites Victoria Park (50 nests) and Orton Bradley Park (30 nests), at 50 m spacing.
- Developed artificial wax egg as method for identifying predators of artificial nests.
- Developed reference wax eggs for predator identification by placing wax eggs in cages with rats, possums and stoats.
- The monitoring of artificial nests with video surveillance equipment was used to verify the identification of predators of artificial eggs.

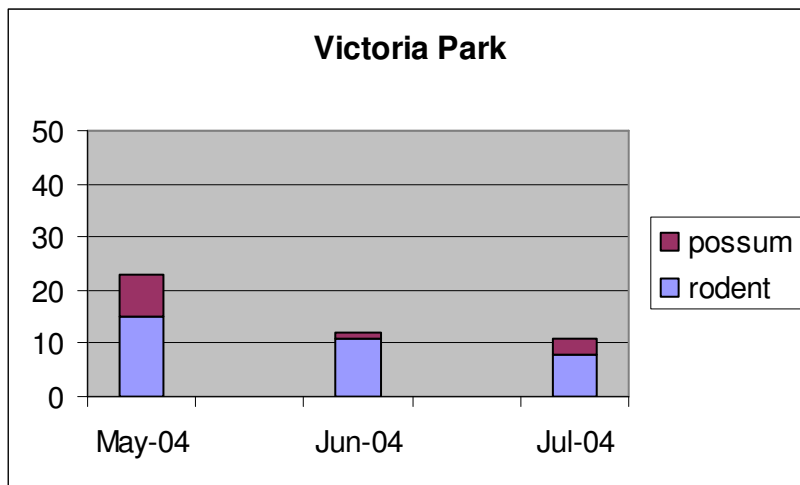
**Objective 2:** *To determine which predator species have the greatest impact on nests in a rural/urban/ forest remnant mosaic.*

- Predation of wax eggs at artificial nests are used to determine which predators are having the greatest impact on the artificial nests.

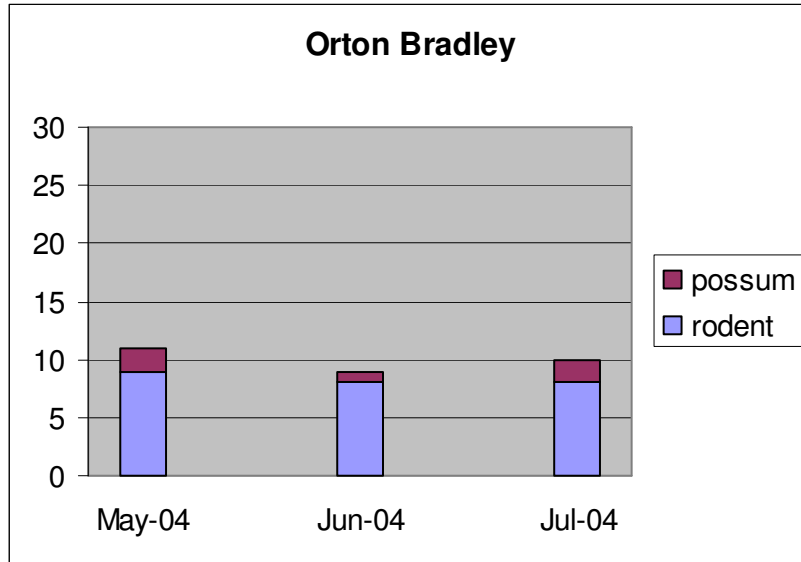
- This data will be backed up with intensive video-monitoring and daily observations for predation of real kereru nests.

Preliminary results show that possums and rats are the main predators of nests in Victoria Park (Figure 1) and Orton Bradley Park (Figure 2).

**Figure 1:** Predation of artificial nests at Victoria Park.



**Figure 2:** Predation of artificial nests at Orton Bradley Park.



**Objective 3:** *To locate and intensively monitor real kererü nests.*

- Monitoring of breeding behaviour such as, display flights, nest making, nest change overs and copulations, helps to find real kererü nests.
- Once located nest will be intensively monitored using video surveillance equipment and also by daily observations to check for predations and monitor progress of egg/chick.
- The kererü breeding season in the South Island is believed to begin in August/September and peak in January.

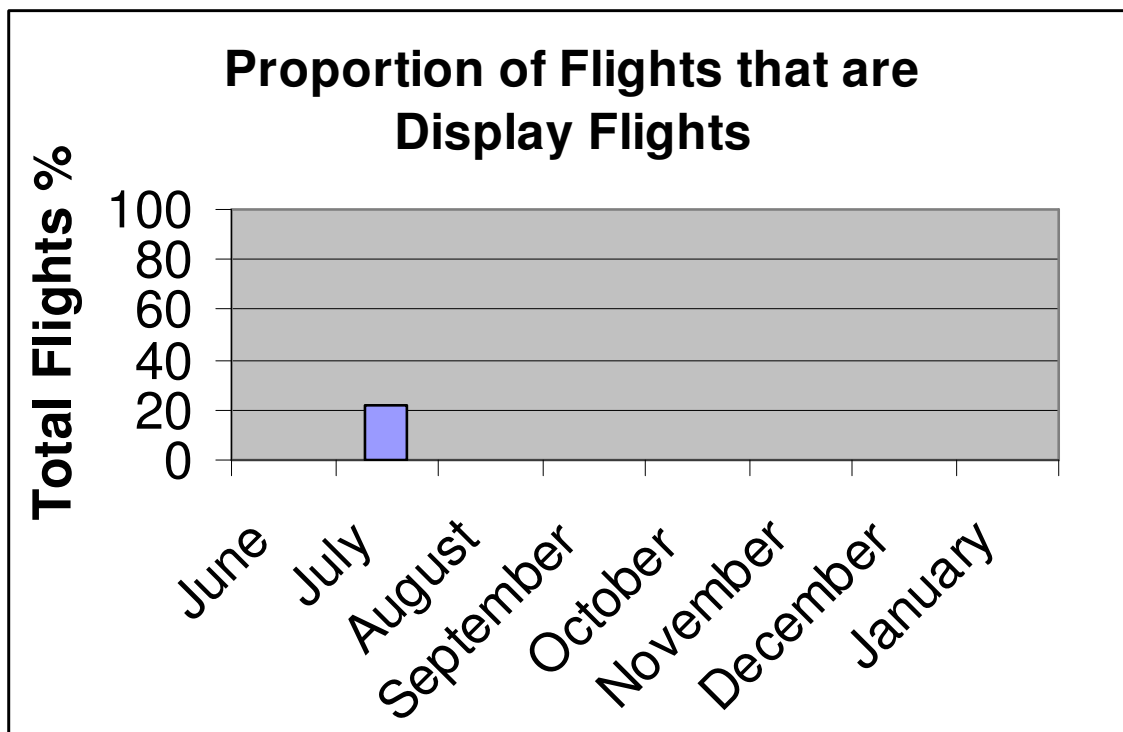
**Objective 4:** *To determine the time of onset of kererü breeding in the Lyttelton Harbour catchment.*

- Monitoring of display flights is a method to determine the onset of breeding. By conducting ten-minute counts of display flights and regular flights gives an index

of breeding behaviour. When there is a high proportion of display flights followed by a subsequent drop this is an indication that the birds are nesting.

Preliminary results show that in July 2004, 22% of the total flights were display flights (Figure 3). Because this is preliminary data the significance of this cannot yet be assessed.

**Figure 3:** Proportion of flights that are display flights to determine the onset of kererü breeding.



- This data will be backed up by observations of other breeding behaviour such as nest making, copulations and nesting.

**Objective 5:** *To estimate the predation-induced mortality rate of a sample of radio-tagged kererü.*

- Two radio-tagged kererü were preyed on in February 2004. Analyses of the remains identified that the kererü were preyed on by either a cat or a stoat.
- These kererü were preyed on while feeding on poroporo, a low growing shrub which makes kererü particularly vulnerable to predation while feeding on its fruits.
- Through further surveying of the site another 7 other preyed on adult kererü were found which are also believed to have been preyed on by a cat or stoat.